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**AMENDMENTS TO THE CLAIMS**

1. (Currently Amended) A treatment line process comprising treating a workpiece by one or more chemical and/or physical processes, having one or more variable ~~parameters~~ parameters and one or more constants, said constants defining an outcome of the treatment upon the workpiece and having set values with limits defining a desired outcome of the treatment, said process further comprising the steps of:
- a) establishing a correlation or set of correlations between one or more of the variable parameters of the chemical and/or physical processes of the treatment line and one or more constants that define the outcome of the treatment, deriving rules that define the correlation or correlations between the one or more constants and the one or more variable parameters, and storing the correlation or correlations and/or the rules derived from them in a control system for the treatment line;
  - b) continuously or intermittently measuring the one or more constants that define the outcome of the treatment;
  - c) where one or more of the measured constants approach or deviate from the limits of their respective set values, choosing one or more of the variable parameters most closely correlated with the one or more of the measured constants approaching or deviating from the limits of their respective set values and whose alteration will have no negative effect on the remaining measured constants, and altering the one or more of the chosen variable parameters in accordance with the correlations established and/or the rules derived in step a) to return or maintain the one or more of the measured constants that are approaching or deviating from the limits of their respective set values to or within the limits of their respective set values, wherein the altering of the one or more variable parameters take place automatically without human intervention or wherein the control system for the process issues a recommendation to alter the one or more variable parameters, and

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d) where the steps~~[[measures]]~~ in c) fail to counteract the deviation of the one or more of the measured constants from the limits of their respective set values, altering one or more of the correlations established and/or the rules derived in step a) to return or maintain the one or more of the measured constants that are approaching or deviating from the limits of their respective set values to or within the limits of their respective set values, wherein the altering of the one or more correlations and/or rules take place automatically without human intervention or wherein the control system for the process issues a recommendation to alter the one or more correlations and/or rules.

2. (Original) The process of claim 1, wherein the rules derived from the correlation or correlations between the one or more variable parameters of the chemical and/or physical processes of the treatment line and the one or more constants defining the outcome of the treatment are expressed in the form of mathematical equations, as imprecise relations, or in model-free algorithms.
3. (Original) The process of claim 1, wherein the treatment of the workpiece comprises a chemical modification and/or a coating of the surface of the workpiece.
4. (Currently Amended) The process of ~~[[claims]]~~ claim 1 wherein the treatment line is a phosphating line for the phosphating of metal surfaces before painting.
5. (Original) The process of claim 4 wherein the phosphating line comprises one or more phosphating zones and one or more of a cleaning zone, an activation zone, or a post-passivation zone.
6. (Original) The process of claim 5, wherein layer-forming phosphating is carried out in the phosphating zone by contacting the metal surface with an acidic aqueous

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7. (Currently Amended) The process of claim 6, wherein the variable parameter or parameters comprise one or more of phosphating ~~[[phosphating]]~~ solution temperature, zinc concentration in the phosphating solution, pH of the phosphating ~~[[posphating]]~~ solution, free ~~[[d-free]]~~ acid content of the phosphating solution, total acid content of the phosphating solution, concentration of one or more accelerators ~~[[accelerators]]~~ in the phosphating solution, concentration of polyvalent metal ions other than zinc in the phosphating solution, contact ~~[[contact]]~~ time between the metal surface ~~[[surface]]~~ and the phosphating solution, and movement of the phosphating solution relative to the metal surface.
8. (Original) The process of claim 5, wherein the variable parameter or parameters are selected from temperature and/or composition of one or more cleaning baths before the phosphating zone, of an activation bath before the phosphating zone and/or of a post-passivation bath after the phosphating zone and/or from contact time between any of these baths and the metal surface.
9. (Original) The process of claim 5, wherein the one or more constants defining the outcome of the treatment comprise one or more of the layer weight of the phosphate layer, the chemical composition of the phosphate layer, the current flow through the phosphate layer during cathodic polarisation, the thickness of an electrophoretic coating applied after phosphating, the adhesion of a paint applied after phosphating, the surface structure of a paint applied after phosphating, and the susceptibility of the workpiece to corrosion after phosphating and painting.
10. (Original) The process of claim 1, wherein the measuring of the one or more constants in step b) and/or the altering in step c) or d) of one or more variable parameters and/or the correlations established and/or the rules derived in step a) are recorded on a data carrier.

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11. (Original) The process of claim 1, wherein the limits of the set values of the parameters may be varied or reset automatically during the process locally or from a remote location.

12. (New) A process for controlling a phosphating plant for producing a phosphate layer on metal surfaces before painting, comprising:

- a) establishing a correlation between one or more variable parameters of at least one chemical and/or physical process of the phosphating plant and one or more constants of a phosphated metal surface, said constants being characteristic of the outcome of phosphating;
  - b) deriving from said correlation one or more rules which define the dependence of the one or more constants on said variable parameters;
  - c) storing the correlation and/or the rules in a control system for the phosphating plant;
  - d) continuously or intermittently measuring at least one of said one or more constants of phosphated metal surfaces produced using the at least one chemical and/or physical process in said phosphating plant;
- and
- e) altering at least one of said one or more variable parameters, in the event of at least one of said one or more constants deviating from a given range of set values or in the event of a significant tendency of at least one of said one or more constants to move towards the limits of the range of set values, such that at least one of the one or more variable parameters most closely correlated with the deviating constant is altered in accordance with the correlation established in step a) and/or the rules of step b) thereby counteracting the deviation of the constant or constants from the range of set values;

wherein the altering of the at least one of the one or more variable parameters

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takes place automatically without human intervention; or  
wherein the control system for the process issues a recommendation to alter the  
at least one of the one or more variable parameters.

13. (New) The process of claim 12, wherein during operation of the phosphating plant, the correlation between the one or more variable parameters of said at least one chemical and/or physical processes of the phosphating plant and one or more constants characteristic of the outcome of phosphating, and/or the one or more rules derived from said correlation, are adapted.

14. (New) The process of claim 12, wherein the one or more rules derived from the correlation between the individual variable parameters of said at least one chemical and/or physical processes of the phosphating plant and one or more constants characteristic of the outcome of phosphating are expressed in the form of mathematical equations, as imprecise relations or in model-free algorithms.

15. (New) The process of claim 12, wherein the phosphating plant has one or more phosphating zones and one or more of the following treatment zones: cleaning zone, activation zone, post-passivation zone.

16. (New) The process of claim 15, wherein, in the phosphating zone, layer-forming phosphating is carried out by contacting metal surfaces with an acidic aqueous phosphating solution containing 0.3 to 3 g/l zinc ions and 3 to 30 g/l phosphate ions.

17. (New) The process of claim 12, wherein, the one or more variable parameters comprise one or more of phosphating solution temperature, zinc concentration in the phosphating solution, pH of the phosphating solution, free acid content of the phosphating solution, total acid content of the phosphating solution, concentration of one or more accelerators in the phosphating solution, concentration of polyvalent metal

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ions other than zinc in the phosphating solution, contact time between the metal surface and the phosphating solution, and movement of the phosphating solution relative to the metal surface.

18. (New) The process of claim 15, wherein, the variable parameter or parameters are selected from temperature and/or composition of one or more cleaning baths before the phosphating zone, of an activation bath before the phosphating zone and/or of a post-passivation bath after the phosphating zone and/or from the period for which these baths are in contact with the metal surface.

19. (New) The process of claim 12, wherein, the one or more constants characteristic of the outcome of phosphating are selected from layer weight of the phosphate layer, chemical composition of the phosphate layer, current flow through the phosphate layer during cathodic polarization, thickness of an electrophoretic coating applied after phosphating, adhesion of a paint applied after phosphating, surface structure of a paint applied after phosphating and susceptibility of the metal surface to corrosion after phosphating and painting.

20. (New) The process of claim 12, wherein, the results of the measurements of the one or more constants carried out in step d) and/or of the alterations of step e) are recorded on a data carrier.

21. (New) The process of claim 12, wherein, the limiting values of the parameters, within which variations may be made automatically during the process, or the set values obtained from the correlation in step a) are reset locally or from a remote location.